FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
Office of Air Quality
and St. Joseph County Health Department

Total Industries, International
A Division of Total Enterprises, Ltd.
3333 West Lathrop Drive
South Bend, Indiana 46619

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: F141-6217-00120	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: Expiration Date:

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) and the St. Joseph County Health Department. The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates an aluminum mold making operation.

Authorized individual:	George F. Weigand
Source Address:	3333 West Lathrop Drive, South Bend, Indiana 46619
Mailing Address:	P.O. Box 3607, South Bend, Indiana 46619
SIC Code:	3599
County Location:	St. Joseph
County Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit (FESOP) Minor Source, under PSD Rules; Minor Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

(a) one (1) Omega mixer (ID No. OSM1), with a Phenolic Ester no-bake binder system, having a maximum capacity of processing 21 tons of sand per hour;

(b) one (1) Omega mixer (ID No. OSM2), with a Phenolic Ester no-bake binder system, having a maximum capacity of processing 13.5 tons of sand per hour.

(c) one (1) gas-electric hybrid furnace with electric ladle (ID Unit No. FF5), with a maximum heat input capacity of 0.8 MMBtu per hour, and a maximum capacity to melt 475 pounds of aluminum per hour, exhausting inside the building; and

(d) one (1) Alumiline electric furnace (ID Unit No. FF1), with a maximum capacity to melt 545 pounds of aluminum per hour, exhausting inside the building;

(e) one (1) pattern shop surface coating operation, consisting of three (3) spray guns (ID Nos. PS-9, PS-10, and PS-11), each utilizing a high volume low pressure (HVLP) spray application system, spraying a maximum of 63.6 pounds of wood patterns per hour, with dry filters for PM overspray control, exhausting through one (1) stack (ID No. Y);

(f) one (1) pattern shop woodworking operation with one (1) dust collector (ID No. DC-1) controlling particulate matter emissions from all woodworking equipment and exhausting through one (1) stack (ID No. DCX-1);

(g) one (1) pneumatic sand blaster (ID Unit No. SB), consisting of two (2) mutually exclusive blasting booths, with a maximum silica sand, olivine sand, grit, or glass bead flow rate of

545.5 pounds per hour and a maximum aluminum casting throughput rate of 20.4 pounds per hour, with a Torrit dust collector (ID No. DC-2) for particulate matter control, exhausting inside the building; and

(h) one (1) Wheelabrator shot blaster (ID Unit No. SHB), with a maximum steel shot flow rate of 2,969.7 pounds per hour and a maximum aluminum casting throughput rate of 25.5 pounds per hour, with a dust collector (ID No. DC-3) for particulate matter control, exhausting through one (1) stack (ID No. DCX-3).

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million Btu per hour:

(1) one (1) boiler (ID Unit No. BLR) with a maximum heat input capacity of 0.67 MMBtu per hour, exhausting through one (1) stack (ID No. BLR);
(2) one (1) core oven (ID Unit No. 1682) with a maximum heat input capacity of 0.58 MMBtu per hour;
(3) one (1) torch burn-off with a maximum heat input capacity of 0.43 MMBtu per hour;
(4) two (2) space heaters;
(5) seven (7) radiant heaters; and
(6) two (2) air make up units.

(b) VOC and HAP storage containers storing lubricating oils, hydraulic oils, machining oils, and machining fluids including:

(1) one (1) 1,321 gallon vertical storage tank (ID Unit No. EDMT) storing EDM fluid, exhausting through one (1) stack (ID No. EDM-1).

(c) Equipment used exclusively for filling drums, pails or other packaging containers with lubricating oils, waxes, and greases.

(d) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.

(e) Machining where an aqueous cutting coolant continuously floods the machining interface.

(f) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment including:

(1) welding operations consisting of the following equipment:

(A) two (2) TIG welding stations (ID Unit Nos. ST1 and ST6), each with a maximum welding rod consumption rate of 2 pounds per hour, exhausting through one (1) stack (ID No. Z);

(B) three (3) aluminum wire welding stations (ID Unit Nos. ST3, ST4, and ST5), each with a maximum wire consumption rate of 6 pounds per hour, exhausting through one (1) stack (ID No. Z); and

(C) one (1) plasma cutting station (ID Unit No. ST2), with a maximum metal cutting rate of 600 inches per hour, exhausting through one (1) stack (ID No. Z).

(g) Non-contact, forced and induced draft cooling tower system not regulated under a NESHAP.

(h) Paved and unpaved roads and parking lots with public access.

(i) Other categories with emissions below insignificant thresholds:

(1) one (1) EDM machine with trivial emissions, exhausting through one (1) stack (ID No. EDM-1);
(2) one (1) plastic shop producing a maximum of 6.18 pounds of plastic molds per hour, utilizing hand brushing and pouring of plastics and fillers, exhausting through one (1) stack (ID No. X);
(3) four (4) vertical CNC mills (ID Unit Nos. CNC1, CNC2, CNC3, and CNC4), each to machine wood patterns, exhausting into a building;
(4) three (3) sand storage silos with pneumatic conveyors;
(5) two (2) electric furnaces used for holing molten aluminum;
(6) aluminum pouring and mold cooling lines; and
(7) miscellaneous abrasive wheels and band saws located throughout the foundry building.

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) for a Federally Enforceable State Operating Permit (FESOP).

A.5 Prior Permit Conditions

(a) This permit shall be used as the primary document for determining compliance with applicable requirements established by previously issued permits.

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, including any term or condition from a previously issued construction or operation permit, IDEM, OAQ, and St. Joseph County Health Department shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued.

SECTION B GENERAL CONDITIONS

B.1 Permit No Defense [IC 13]

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

B.2 Definitions [326 IAC 2-8-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2, and 326 IAC 2-7) shall prevail.

B.3 Permit Term [326 IAC 2-8-4(2)]

This permit is issued for a fixed term of five (5) years from the original date, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date.

B.4 Enforceability [326 IAC 2-8-6]

(a) Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM and St. Joseph County Health Department, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

(b) Unless otherwise stated, all terms and conditions in this permit that are local requirements, including any provisions designed to limit the source's potential to emit, are enforceable by St. Joseph County Health Department.

B.5 Termination of Right to Operate [326 IAC 2-8-9] [326 IAC 2-8-3(h)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

B.6 Severability [326 IAC 2-8-4(4)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.7 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]

This permit does not convey any property rights of any sort, or any exclusive privilege.

B.8 Duty to Supplement and Provide Information [326 IAC 2-8-3(f)] [326 IAC 2-8-4(5)(E)] [326 IAC 2-8-5(a)(4)]

(a) The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

and

St. Joseph County Health Department
County-City Building, Room 914
South Bend, Indiana 46601-1870
The submittal by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) The Permittee shall furnish to IDEM, OAQ, and St. Joseph County Health Department within a reasonable time, any information that IDEM, OAQ, and St. Joseph County Health Department may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ, and St. Joseph County Health Department copies of records required to be kept by this permit or, for information claimed to be confidential, the Permittee may furnish such records directly to the U. S. EPA along with a claim of confidentiality.[326 IAC 2-8-4(5)(E)]

(c) The Permittee may include a claim of confidentiality in accordance with 326 IAC 17. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.9 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ and St. Joseph County Health Department may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.10 Compliance with Permit Conditions [326 IAC 2-8-4(5)(A)] [326 IAC 2-8-4(5)(B)]

(a) The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit, except those specifically designated as not federally enforceable, is grounds for:

(1) Enforcement action;

(2) Permit termination, revocation and reissuance, or modification; and

(3) Denial of a permit renewal application.

(b) It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(c) An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in condition B, Emergency Provisions.

B.11 Certification [326 IAC 2-8-3(d)] [326 IAC 2-8-4(3)(C)(i)] [326 IAC 2-8-5(1)]

(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a authorized individual of truth, accuracy, and completeness. This certification, shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification.

(c) An authorized individual is defined at 326 IAC 2-1.1-1(1).

B.12 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in letter form no later than April 15 of each year to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

and

St. Joseph County Health Department
County-City Building, Room 914
South Bend, Indiana 46601-1870

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, and St. Joseph County Health Department on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and

(5) Such other facts as specified in Sections D of this permit, IDEM, OAQ, and St. Joseph County Health Department may require to determine the compliance status of the source.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.13 Preventive Maintenance Plan [326 IAC 1-6-3] [326 IAC 2-8-4(9)] [326 IAC 2-8-5(a)(1)]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

and

St. Joseph County Health Department
County-City Building, Room 914
South Bend, Indiana 46601-1870

The PMP and the PMP extension notification do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ, and St. Joseph County Health Department upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ, and St. Joseph County Health Department. IDEM, OAQ, and St. Joseph County Health Department may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or contributes to any violation. The PMP does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner St. Joseph County Health Department makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner St. Joseph County Health Department within a reasonable time.

B.14 Emergency Provisions [326 IAC 2-8-12]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation, except as provided in 326 IAC 2-8-12.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describes the

following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ and St. Joseph County Health Department, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone No.: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section)
or,
Telephone No.: 317-233-5674 (ask for Compliance Section)
Facsimile No.: 317-233-5967

and

Telephone No.: 219-235-9775 (St. Joseph County Health Department)
Facsimile No.: 219-235-7558

Failure to notify IDEM, OAQ and St. Joseph County Health Department, by telephone or facsimile within four (4) daytime business hours after the beginning of the emergency, or after the emergency is discovered or reasonably should have been discovered, shall constitute a violation of 326 IAC 2-8 and any other applicable rules. [326 IAC 2-8-12(f)]

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

and

St. Joseph County Health Department
County-City Building, Room 914
South Bend, Indiana 46601-1870

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) IDEM, OAQ and St. Joseph County Health Department, may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ and St. Joseph County Health Department, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.

(g) Operations may continue during an emergency only if the following conditions are met:

(1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

(2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

(A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and

(B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]

(a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provision), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

and

St. Joseph County Health Department
County-City Building, Room 914
South Bend, Indiana 46601-1870

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do not need to be included in this report.

The notification by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:

(1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or

(2) Failure to implement elements of the Preventive Maintenance Plan unless such failure has caused or contributed to a deviation.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred is a deviation.

(c) Emergencies shall be included in the Quarterly Deviation and Compliance Monitoring Report.

B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)] [326 IAC 2-8-7(a)] [326 IAC 2-8-8]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a FESOP modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ or St. Joseph County Health Department determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]

(c) Proceedings by IDEM, OAQ or St. Joseph County Health Department to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ or St. Joseph County Health Department, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ or St. Joseph County Health Department may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.17 Permit Renewal [326 IAC 2-8-3(h)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and St. Joseph County Health Department and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015

and

St. Joseph County Health Department
County-City Building, Room 914
South Bend, Indiana 46601-1870

(b) Timely Submittal of Permit Renewal [326 IAC 2-8-3]

(1) A timely renewal application is one that is:

(A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(B) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, and St. Joseph County Health Department on or before the date it is due.

(2) If IDEM, OAQ and St. Joseph County Health Department upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.

(c) Right to Operate After Application for Renewal [326 IAC 2-8-9]
If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ and St. Joseph County Health Department takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ and St.

Joseph County Health Department, any additional information identified as needed to process the application.

B.18 Permit Amendment or Revision [326 IAC 2-8-10] [326 IAC 2-8-11.1]

(a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

and

St. Joseph County Health Department
County-City Building, Room 914
South Bend, Indiana 46601-1870

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) The Permittee may implement the administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.19 Operational Flexibility [326 IAC 2-8-15]

(a) The Permittee may make any change or changes at this source that are described in 326 IAC 2-8-15(b) through (d), without prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any approval required by 326 IAC 2-8-11.1 has been obtained;

(3) The changes do not result in emissions which exceed the emissions allowable under this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

and

St. Joseph County Health Department
County-City Building, Room 914
South Bend, Indiana 46601-1870

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site which document, on a rolling five (5) year basis, all such changes and emissions trading that are subject to 326 IAC 2-8-15(b) through (d) and makes such records available, upon reasonable request, to public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ and St. Joseph County Health Department in the notices specified in 326 IAC 2-8-15(b), (c)(1), and (d).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-8-15(a) and the following additional conditions:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted by the Permittee does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

(c) Emission Trades [326 IAC 2-8-15(c)]
The Permittee may trade increases and decreases in emissions in the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).

(d) Alternative Operating Scenarios [326 IAC 2-8-15(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ or U.S. EPA is required.

B.20 Permit Revision Requirement [326 IAC 2-8-11.1]

A modification, construction, or reconstruction is governed 326 IAC 2 and 326 IAC 2-8-11.1.

B.21 Inspection and Entry [326 IAC 2-8-5(a)(2)] [IC 13-14-2-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, the St. Joseph County Health Department, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

(a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

and

St. Joseph County Health Department
County-City Building, Room 914
South Bend, Indiana 46601-1870

The application which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-11(b)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16]

(a) The Permittee shall pay annual fees to IDEM, OAQ, within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Failure to pay may result in administrative enforcement action, or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-0425 (ask for OAQ, Technical Support and Modeling Section), to determine the appropriate permit fee.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emissions Limitations and Standards [326 IAC 2-8-4(1)]

C.1 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

(1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one-hundred (100) tons per twelve (12) consecutive month period. This limitation shall also satisfy the requirements of 326 IAC 2-3 (Emission Offset);

(2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and

(3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), emissions of particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided the source's potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1. 326 IAC 4-1-3(a)(2)(A) and (B) are not federally enforceable.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2(3)]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and in 326 IAC 9-1-2. 326 IAC 9-1-2 is not federally enforceable.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Operation of Equipment [326 IAC 2-8-5(a)(4)]

Except as otherwise provided by statute, rule or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

and

St. Joseph County Health Department
County-City Building, Room 914

South Bend, Indiana 46601-1870

The notifications do not require a certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-4 emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Indiana Accredited Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement that the inspector be accredited is federally enforceable.

Testing Requirements [326 IAC 2-8-4(3)]

C.8 Performance Testing [326 IAC 3-6]

(a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

and

St. Joseph County Health Department
County-City Building, Room 914
South Bend, Indiana 46601-1870

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ and St. Joseph County Health Department not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, and St. Joseph County Health Department if the source submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

C.10 Compliance Monitoring [326 IAC 2-8-4(3)] [326 IAC 2-8-5(a)(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

and

St. Joseph County Health Department
County-City Building, Room 914
South Bend, Indiana 46601-1870

in writing, prior to the end of the initial ninety (90) day compliance schedule with full justification of the reasons for inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Unless otherwise specified in the approval for the new emissions unit, compliance monitoring for new emission units or emission units added through a permit revision shall be implemented when operation begins.

C.11 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing performed required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60 Appendix B, 40 CFR 63 or other approved methods as specified in this permit.

C.12 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)] [326 IAC 2-8-5(1)]

(a) Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (±2%) of full scale reading.

(b) Whenever a condition in this permit requires the measurement of a temperature, flow rate, or pH level, the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus

or minus two percent (±2%) of full scale reading.

(c) The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.

Corrective Actions and Response Steps [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

C.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) These ERPs shall be submitted for approval to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

and

St. Joseph County Health Department
County-City Building, Room 914
South Bend, Indiana 46601-1870

within ninety (90) days from the date of issuance of this permit.

The ERP does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) If the ERP is disapproved by IDEM, OAQ and St. Joseph County Health Department, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.

(d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

(f) Upon direct notification by IDEM, OAQ and St. Joseph County Health Department that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.14 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68.215]

If a regulated substance, subject to 40 CFR 68, is present at a source in more than a threshold quantity, 40 CFR 68 is an applicable requirement and the Permittee shall submit:

(a) A compliance schedule for meeting the requirements of 40 CFR 68; or

(b) As a part of the annual compliance certification submitted under 326 IAC 2-7-6(5), a certification statement that the source is in compliance with all the requirements of 40 CFR 68, including the registration and submission of a Risk Management Plan (RMP); and

(c) A verification to IDEM, OAQ, and St. Joseph County Health Department that a RMP or a revised plan was prepared and submitted as required by 40 CFR 68.

All documents submitted pursuant to this condition shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

C.15 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-8-4] [326 IAC 2-8-5]

(a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. The compliance monitoring plan can be either an entirely new document, consist in whole of information contained in other documents, or consist of a combination of new information and information contained in other documents. If the compliance monitoring plan incorporates by reference information contained in other documents, the Permittee shall identify as part of the compliance monitoring plan the documents in which the information is found. The elements of the compliance monitoring plan are:

(1) This condition;

(2) The Compliance Determination Requirements in Section D of this permit;

(3) The Compliance Monitoring Requirements in Section D of this permit;

(4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and

(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAQ and St. Joseph County Health Department upon request and shall be subject to review and approval by IDEM, OAQ, and St. Joseph County Health Department. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of:

(A) Reasonable response steps that may be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and

(B) A time schedule for taking reasonable response steps including a schedule for devising additional response steps for situations that may not have been predicted.

(b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to take reasonable response steps may constitute a violation of the permit.

(c) Upon investigation of a compliance monitoring excursion, the Permittee is excused from taking further response steps for any of the following reasons:

(1) A false reading occurs due to the malfunction of the monitoring equipment. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied.

(3) An automatic measurement was taken when the process was not operating.

(4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.

(d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

(e) All monitoring required in Section D shall be performed at all times the equipment is operating. If monitoring is required by Section D and the equipment is not operating, then the Permittee may record the fact that the equipment is not operating or perform the required monitoring.

(f) At its discretion, IDEM may excuse the Permittee's failure to perform the monitoring and record keeping as required by Section D, if the Permittee provides adequate justification and documents that such failures do not exceed five percent (5%) of the operating time in any quarter. Temporary, unscheduled unavailability of qualified staff shall be considered a valid reason for failure to perform the monitoring or record keeping requirements in Section D.

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4] [326 IAC 2-8-5]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The documents submitted pursuant to this condition do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

C.17 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

(a) Records of all required data, reports and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner or St. Joseph County Health Department makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner or St. Joseph County Health Department within a reasonable time.

(b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.18 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

(a) The source shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC2-1.1-1(1).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

and

St. Joseph County Health Department
County-City Building, Room 914
South Bend, Indiana 46601-1870

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, and St. Joseph County Health Department on or before the date it is due.

(d) Unless otherwise specified in this permit, any quarterly report required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. The reports do require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(e) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

Stratospheric Ozone Protection

C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

(a) Persons opening appliances for maintenance, service, repair or disposal must comply with the required practices pursuant to 40 CFR 82.156

(b) Equipment used during the maintenance, service, repair or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

(c) Persons performing maintenance, service, repair or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

(a) one (1) Omega mixer (ID No. OSM1), with a Phenolic Ester no-bake binder system, having a maximum capacity of processing 21 tons of sand per hour;

(b) one (1) Omega mixer (ID No. OSM2), with a Phenolic Ester no-bake binder system, having a maximum capacity of processing 13.5 tons of sand per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 Particulate Matter 10 Microns (PM10) [326 IAC 2-8]

Pursuant to 326 IAC 2-8-4, total PM10 emissions from the Omega sand mixers shall not exceed 10.0 pounds per hour, including both filterable and condensible fractions. Compliance with this limit will satisfy 326 IAC 2-8-4. Therefore, the Part 70 rules (326 IAC 2-7) do not apply.

D.1.2 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Process Operations), particulate emissions from the two (2) Omega mixers shall be limited by the following:

Allowable PM Emissions (lbs/hr) are based on the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Emission Unit	Process Weight Rate (tons/hr)	Allowable PM Emissions (lbs/hr)	PSD Minor Limit PM Emissions (lbs/hr)
Omega sand mixer (OSM1)	21.0	31.53	28.16
Omega sand mixer (OSM2)	13.5	23.45	20.94

D.1.3 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

PM emissions from the two (2) Omega mixers shall be limited to the PSD Minor emission limits specified in the above table. Compliance with these limits shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.

D.1.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for each facility and its control device.

Compliance Determination Requirements

D.1.5 Visible Emissions

The two (2) omega mixers, identified as OSM1 and OSM2, shall not discharge or cause the discharge into the atmosphere any visible fugitive emissions from the process.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.1.6 Visible Fugitive Emissions Notations

(a) Visible fugitive emission notations of the two (2) Omega Mixers shall be performed once per shift during normal daylight operations. A trained employee shall record whether visible fugitive emissions are observed.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of visible fugitive emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when visible fugitive emissions are observed.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.1.7 Record Keeping Requirements

To document compliance with Condition D.1.6, the Permittee shall maintain records of visible fugitive emission notations of the two (2) omega mixers once per shift.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

(a) one (1) gas-electric hybrid furnace with electric ladle (ID Unit No. FF5), with a maximum heat input capacity of 0.8 MMBtu per hour, and a maximum capacity to melt 475 pounds of aluminum per hour, exhausting inside the building;

(b) one (1) Alumiline electric furnace (ID Unit No. FF1), with a maximum capacity to melt 545 pounds of aluminum per hour, exhausting inside the building.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.2.1 Particulate Matter 10 Microns (PM10) [326 IAC 2-8]

Pursuant to 326 IAC 2-8-4, total PM10 emissions from the two furnaces shall not exceed 0.88 pounds per hour, including both filterable and condensible fractions. Compliance with this limit will satisfy 326 IAC 2-8-4. Therefore, the Part 70 rules (326 IAC 2-7) do not apply.

D.2.2 Particulate Matter (PM) [326 IAC 6-1-2]

Pursuant to 326 IAC 6-1-2(a) (Nonattainment Area Particulate Limitations), the particulate matter (PM) emissions from each of the two (2) melt furnaces shall be limited to 0.03 grain per dry standard cubic foot (gr/dscf). This is equivalent to a particulate matter emission rate of 0.44 pounds per hour for each furnace at exhaust flow rates of 1,704 dry standard cubic feet per minute (dscfm) from each furnace.

D.2.3 Materials Melted [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), the Permittee shall not melt any post-consumer scrap materials in any of the furnaces at this source. Violation of this condition would cause this source to be considered a secondary metal production facility which is one of the 28 listed source categories. Violation of this condition would constitute a violation of 326 IAC 2-2 (PSD).

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.2.4 Record Keeping Requirements

(a) To document compliance with Condition D.2.3, the Permittee shall maintain records documenting the type of material melted in the furnaces. Records maintained shall be taken monthly and shall be complete and sufficient to establish compliance with Condition D.2.3.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

(a) one (1) pattern shop surface coating operation, consisting of three (3) spray guns (ID Nos. PS-9, PS-10, and PS-11), each utilizing a high volume low pressure (HVLP) spray application system, spraying a maximum of 63.6 pounds of wood patterns per hour, with dry filters for PM overspray control, exhausting through one (1) stack (ID No. Y).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.3.1 Volatile Organic Compounds (VOC) [326 IAC 2] [326 IAC 8-1-6]

Any change or modification which may increase potential VOC usage in the pattern shop surface coating operation by 25 tons per year or greater, before controls, shall obtain prior approval from IDEM, OAQ before such change can occur and shall be subject to the requirements of 326 IAC 8-1-6.

D.3.2 Particulate Matter 10 Microns (PM10) [326 IAC 2-8]

Pursuant to 326 IAC 2-8-4, total PM10 emissions from the pattern shop surface coating operation shall not exceed 0.19 pounds per hour, including both filterable and condensible fractions. Compliance with this limit will satisfy 326 IAC 2-8-4. Therefore, the Part 70 rules (326 IAC 2-7) do not apply.

D.3.3 Particulate Matter (PM) [326 IAC 6-1-2]

Pursuant to 326 IAC 6-1-2(a) (Nonattainment Area Particulate Limitations), the particulate matter (PM) emissions from the pattern shop surface coating operation shall be limited to 0.03 grain per dry standard cubic foot (gr/dscf). This is equivalent to a particulate matter emission rate of 0.19 pounds per hour at an exhaust flow rate of 730 dscfm.

D.3.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.3.5 Particulate Matter (PM)

In order to comply with Condition D.3.3, the dry filters for PM control shall be in operation at all times when the three (3) spray guns are in operation.

D.3.6 Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating stack (ID No. Y) while one or more of the spray guns are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.3.7 Record Keeping Requirements

(a) To document compliance with Condition D.3.1, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.3.1.

(1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(2) A log of the dates of use;

(3) The cleanup solvent usage for each month;

(4) The total VOC usage for each month; and

(5) The weight of VOCs emitted for each compliance period.

(b) To document compliance with Conditions D.3.5 and D.3.6, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

(a) one (1) pattern shop woodworking operation with one (1) dust collector (ID No. DC-1) controlling particulate matter emissions from all woodworking equipment and exhausting through one (1) stack (ID No. DCX-1);

(b) one (1) pneumatic sand blaster (ID Unit No. SB), with a maximum sand flow rate of 545.5 pounds per hour and a maximum aluminum casting throughput rate of 20.4 pounds per hour, with a dust collector (ID No. DC-2) for particulate matter control, exhausting inside the building; and

(c) one (1) Wheelabrator shot blaster (ID Unit No. SHB), with a maximum steel shot flow rate of 2,969.7 pounds per hour and a maximum aluminum casting throughput rate of 25.5 pounds per hour, with a dust collector (ID No. DC-3) for particulate matter control, exhausting through one (1) stack (ID No. DCX-3).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.4.1 Particulate Matter (PM) [326 IAC 6-1-2]

Pursuant to 326 IAC 6-1-2(a)(Nonattainment Area Particulate Limitations), particulate matter (PM) emissions from the pattern shop woodworking operation, the pneumatic sand blaster, and the shot blaster shall each be limited to 0.03 grain per dry standard cubic foot (gr/dscf). This is equivalent to a PM emission rate of:

(a) 1.0 pound per hour from the pattern shop woodworking operation at an exhaust flow rate of 3,896 dscfm;
(b) 1.75 pounds per hour from the pneumatic sand blaster at an exhaust flow rate of 6,817 dscfm; and
(c) 1.5 pounds per hour from the shot blaster at an exhaust flow rate of 5,843 dscfm.

D.4.2 Particulate Matter 10 Microns (PM10) [326 IAC 2-8]

Pursuant to 326 IAC 2-8-4, total PM10 emissions from the pneumatic sand blaster, the shot blaster and the pattern woodworking operation shall not exceed:

(a) 1.0 pound per hour from the pattern shop woodworking operation;
(b) 4.11 pounds per hour from the pneumatic sand blaster; and
(c) 4.11 pounds per hour from the shot blaster,

including both filterable and condensible fractions. Compliance with this limit will satisfy 326 IAC 2-8-4. Therefore, the Part 70 rules (326 IAC 2-7) do not apply.

D.4.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for each facility and its control device.

Compliance Determination Requirements

D.4.4 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

During the period between 30 and 36 months after issuance of this permit, in order to demonstrate compliance with Conditions D.4.1 and D.4.2 the Permittee shall perform PM and PM-10 testing on the shot blaster utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

D.4.5 Particulate Matter (PM)

In order to comply with Conditions D.4.1 and D.4.2, the three (3) dust collectors (ID Nos. DC-1, DC-2, and DC-3) for PM and PM10 control shall be in operation and control emissions from the pattern shop woodworking operation, the pneumatic sand blaster, and the shot blaster, respectively, at all times that these facilities are in operation.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.4.6 Visible Emissions Notations

(a) Daily visible emission notations of the woodworking operation dust collector (ID No. DC-1), and the shot blaster dust collector (ID DC-3) stack exhausts shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.4.7 Parametric Monitoring

(a) The Permittee shall record the total static pressure drop across the dust collector (ID No. DC-1) used in conjunction with the woodworking operation, at least once weekly when the woodworking equipment is in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the dust collector shall be maintained within the range of 4.0 and 8.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

(b) The Permittee shall record the total static pressure drop across each of the dust collectors (ID Nos. DC-2 and DC-3) used in conjunction with the pneumatic sand blaster and the shot blaster, respectively, at least once per shift when the pneumatic sand blaster and the shot blaster are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across each of the dust collectors DC-2 and DC-3 shall be maintained within the ranges of 2.0 and 3.0 and 4.0 and 8.0 inches of water, respectively, or ranges established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned ranges for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and the St. Joseph County Health Department and shall be calibrated at least once every six (6) months.

D.4.8 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the pneumatic sand blaster and the shot blaster when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.4.9 Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.4.10 Record Keeping Requirements

(a) To document compliance with Condition D.4.6, the Permittee shall maintain records of daily visible emission notations of the woodworking operation dust collector (ID No. DC-1), and the shot blaster dust collector (ID DC-3) stack exhausts.

(b) To document compliance with Condition D.4.7(a), the Permittee shall maintain the following for dust collector DC-1:

(1) Weekly records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle operation.

(2) Documentation of the dates vents are redirected.

(c) To document compliance with Condition D.4.7(b), the Permittee shall maintain the following for dust collectors DC-2 and DC-3:

(1) Once per shift records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle operation.

(2) Documentation of the dates vents are redirected .

(d) To document compliance with Condition D.4.8, the Permittee shall maintain records of the results of the inspections required under Condition D.4.8 and the dates the vents are redirected.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.5 FACILITY CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

Insignificant Activity:

(a) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million Btu per hour:
  (1) one (1) boiler (ID Unit No. BLR) with a maximum heat input capacity of 0.67 MMBtu per hour, exhausting through one (1) stack (ID No. BLR);

  (2) one (1) core oven (ID Unit No. 1682) with a maximum heat input capacity of 0.58 MMBtu per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.5.1 Particulate Matter (PM) [326 IAC 6-1-2]

Pursuant to 326 IAC 6-1-2(a) (Nonattainment Area Particulate Limitations), the particulate matter (PM) emissions from the core oven (ID 1682) shall be limited to 0.03 grain per dry standard cubic foot (gr/dscf). This is equivalent to a particulate matter emission rate of 0.10 pound per hour at an exhaust flow rate of 1,169 dscfm.

D.5.2 Particulate Matter (PM) [326 IAC 6-2-3]

Pursuant to 326 IAC 6-2-3 (Particulate Matter Emission Limitations for Sources of Indirect Heating), the PM emissions from the 0.67 MMBtu per hour heat input boiler shall be limited to 0.8 pounds per MMBtu heat input. This is equivalent to a particulate matter emission rate of 0.54 pound per hour.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
Office of Air Quality
COMPLIANCE DATA SECTION
and ST. JOSEPH COUNTY HEALTH DEPARTMENT

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) CERTIFICATION

Source Name: Total Industries, Int'l. A Division of Total Enterprises, Ltd.
Source Address: 3333 West Lathrop Drive, South Bend, Indiana 46619
Mailing Address: P.O. Box 3607, South Bend, Indiana 46619
FESOP No.: F141-6217-00120

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

9 Annual Compliance Certification Letter

9 Test Result (specify) _____

9 Report (specify) _____

9 Notification (specify) _____

9 Affidavit (specify) _____

9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Office of Air Quality

COMPLIANCE BRANCH
P.O. Box 6015
100 North Senate Avenue
Indianapolis, Indiana 46206-6015
Phone: 317-233-5674
Fax: 317-233-5967

and ST. JOSEPH COUNTY HEALTH DEPARTMENT

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT

Source Name: Total Industries, Int'l. A Division of Total Enterprises, Ltd.
Source Address: 3333 West Lathrop Drive, South Bend, Indiana 46619
Mailing Address: P.O. Box 3607, South Bend, Indiana 46619
FESOP No.: F141-6217-00120

This form consists of 2 pages **Page 1 of 2**

Check either No. 1 or No.2
9 1. This is an emergency as defined in 326 IAC 2-7-1(12) CThe Permittee must notify the Office of Air Quality (OAQ), within four (**4**) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and CThe Permittee must submit notice in writing or by facsimile within two (**2**) days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16
9 2. This is a deviation, reportable per 326 IAC 2-8-4(3)(C) CThe Permittee must submit notice in writing within ten (**10**) calendar days

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency/Deviation:
Describe the cause of the Emergency/Deviation:

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency/Deviation started:
Date/Time Emergency/Deviation was corrected:
Was the facility being properly operated at the time of the emergency/deviation? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency/deviation:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____
Title / Position: _____
Date: _____
Phone: _____

A certification is not required for this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

and ST. JOSEPH COUNTY HEALTH DEPARTMENT

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Total Industries, Int'l. A Division of Total Enterprises, Ltd.
Source Address: 3333 West Lathrop Drive, South Bend, Indiana 46619
Mailing Address: P.O. Box 3607, South Bend, Indiana 46619
FESOP No.: F141-6217-00120

Months: _____ **to** _____ **Year:** _____

Page 1 of 2

This report is an affirmation that the source has met all the requirements stated in this permit. This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management
Office of Air Quality
and St. Joseph County Health Department

Addendum to the
Technical Support Document for Federally Enforceable State Operating Permit (FESOP)

Source Name: **Total Industries, Int'l. A Division of Total Enterprises, Ltd.**
Source Location: **3333 West Lathrop Drive, South Bend, Indiana 46619**
County: **St. Joseph**
SIC Code: **3599**
Operation Permit No.: **F141-6217-00120**
Permit Reviewer: **Linda Quigley/EVP**

On April 29, 2001, the Office of Air Quality (OAQ) had a notice published in the South Bend Tribune, South Bend, Indiana, stating that Total Industries, Int'l. A Division of Total Enterprises, Ltd. had applied for a Federally Enforceable State Operating Permit (FESOP) to operate a stationary aluminum mold making operation. The notice also stated that OAQ proposed to issue a FESOP for this operation and provided information on how the public could review the proposed FESOP and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this FESOP should be issued as proposed.

On June 1, 2001, Ron Ward of Cornerstone Environmental, Health and Safety, Inc., submitted comments on behalf of Total Industries Int'l. A Division of Total Enterprises, Ltd. (Total Industries). The summary of the comments and responses is as follows:

Comment #1

Under the Compliance Determination Requirements Section D.1.5 there is the requirement to perform PM and PM10 testing on the mixers, assumed to be stack testing. There are no stacks or vents associated with these mixers and therefore it would be very difficult to perform and economically burdensome. Therefore we request that the necessary compliance requirements possibly be met through operational procedures.

Response #1

Since the Omega mixers are enclosed units without any exhaust points, IDEM's Compliance Data Section agrees that it is not practical to require testing on these units. Therefore, this requirement, listed in Condition D.1.5 has been removed. The testing requirement has been replaced with a condition that states there should not be any visible fugitive emissions from the process. Conditions D.1.6 and D.1.7 were added for notations and record-keeping of visible fugitive emissions.

Compliance Determination Requirements

~~D.1.5 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]~~

~~During the period between 18 and 24 months after issuance of this permit, in order to demonstrate compliance with Condition D.1.1 and D.1.2, the Permittee shall perform PM and PM-10 testing on the Omega sand mixers utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.~~

D.1.5 Visible Emissions

The two (2) omega mixers, identified as OSM1 and OSM2, shall not discharge or cause the discharge into the atmosphere any visible fugitive emissions from the process.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.1.6 Visible Fugitive Emissions Notations

(a) Visible fugitive emission notations of the two (2) Omega Mixers shall be performed once per shift during normal daylight operations. A trained employee shall record whether visible fugitive emissions are observed.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of visible fugitive emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when visible fugitive emissions are observed.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.1.7 Record Keeping Requirements

To document compliance with Condition D.1.6, the Permittee shall maintain records of visible fugitive emission notations of the two (2) omega mixers once per shift.

Indiana Department of Environmental Management
Office of Air Quality
and St. Joseph County Health Department

Technical Support Document (TSD) for a Federally Enforceable Operating Permit (FESOP)

Source Background and Description

Source Name:	**Total Industries, Int'l. A Division of Total Enterprises, Ltd.**
Source Location:	**3333 West Lathrop Drive, South Bend, Indiana 46619**
County:	**St. Joseph**
SIC Code:	**3599**
Operation Permit No.:	**F141-6217-00120**
Permit Reviewer:	**Linda Quigley/EVP**

The Office of Air Quality (OAQ) has reviewed a FESOP application from Total Industries, Int'l. A Division of Total Enterprises, Ltd. relating to the operation of an aluminum mold making operation.

New Emission Units and Pollution Control Equipment

The source consists of the following new emission units and pollution control devices:

(a) one (1) Omega mixer (ID No. OSM1), with a Phenolic Ester no-bake binder system, having a maximum capacity of processing 21 tons of sand per hour;

(b) one (1) Omega mixer (ID No. OSM2), with a Phenolic Ester no-bake binder system, having a maximum capacity of processing 13.5 tons of sand per hour.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) one (1) gas-electric hybrid furnace with electric ladle (ID Unit No. FF5), with a maximum heat input capacity of 0.8 MMBtu per hour, and a maximum capacity to melt 475 pounds of aluminum per hour, exhausting inside the building; and

Note: The 3-part phenolic urethane resin mixing system, permitted in SSM 141-11172-00120, issued October 6, 1999, was never installed and will not be installed.

Unpermitted Emission Units and Pollution Control Equipment

The source also consists of the following unpermitted facilities/units:

(a) one (1) Alumiline electric furnace (ID Unit No. FF1), with a maximum capacity to melt 545

pounds of aluminum per hour, exhausting inside the building;

(b) one (1) pattern shop surface coating operation, consisting of three (3) spray guns (ID Nos. PS-9, PS-10, and PS-11), each utilizing a high volume low pressure (HVLP) spray application system, spraying a maximum of 63.6 pounds of wood patterns per hour, with dry filters for PM overspray control, exhausting through one (1) stack (ID No. Y);

(c) one (1) pattern shop woodworking operation with one (1) dust collector (ID No. DC-1) controlling particulate matter emissions from all woodworking equipment and exhausting through one (1) stack (ID No. DCX-1);

(d) one (1) pneumatic sand blaster (ID Unit No. SB), consisting of two (2) mutually exclusive blasting booths, with a maximum silica sand, olivine sand, grit, or glass bead flow rate of 545.5 pounds per hour and a maximum aluminum casting throughput rate of 20.4 pounds per hour, with a Torrit dust collector (ID No. DC-2) for particulate matter control, exhausting inside the building; and

(e) one (1) Wheelabrator shot blaster (ID Unit No. SHB), with a maximum steel shot flow rate of 2,969.7 pounds per hour and a maximum aluminum casting throughput rate of 25.5 pounds per hour, with a dust collector (ID No. DC-3) for particulate matter control, exhausting through one (1) stack (ID No. DCX-3).

Note: There are no other significant emission points in this aluminum mold making operation.

Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million Btu per hour:

(1) one (1) boiler (ID Unit No. BLR) with a maximum heat input capacity of 0.67 MMBtu per hour, exhausting through one (1) stack (ID No. BLR);
(2) one (1) core oven (ID Unit No. 1682) with a maximum heat input capacity of 0.58 MMBtu per hour;
(3) one (1) torch burn-off with a maximum heat input capacity of 0.188 MMBtu per hour;
(4) two (2) space heaters;
(5) seven (7) radiant heaters; and
(6) two (2) air make up units.

(b) VOC and HAP storage containers storing lubricating oils, hydraulic oils, machining oils, and machining fluids including:

(1) one (1) 1,321 gallon vertical storage tank (ID Unit No. EDMT) storing EDM fluid, exhausting through one (1) stack (ID No. EDM-1).

(c) Equipment used exclusively for filling drums, pails or other packaging containers with lubricating oils, waxes, and greases.

(d) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.

(e) Machining where an aqueous cutting coolant continuously floods the machining interface.

(f) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment including:

(1) welding operations consisting of the following equipment:

(A) two (2) TIG welding stations (ID Unit Nos. ST1 and ST6), each with a maximum welding rod consumption rate of 2 pounds per hour, exhausting through one (1) stack (ID No. Z);
(B) three (3) aluminum wire welding stations (ID Unit Nos. ST3, ST4, and ST5), each with a maximum wire consumption rate of 6 pounds per hour, exhausting through one (1) stack (ID No. Z); and
(C) one (1) plasma cutting station (ID Unit No. ST2), with a maximum metal cutting rate of 600 inches per hour, exhausting through one (1) stack (ID No. Z).

(g) Noncontact, forced and induced draft cooling tower system not regulated under a NESHAP.

(h) Paved and unpaved roads and parking lots with public access.

(i) Other categories with emissions below insignificant thresholds:

(1) one (1) EDM machine with trivial emissions, exhausting through one (1) stack (ID No. EDM-1);
(2) one (1) plastic shop producing a maximum of 6.18 pounds of plastic molds per hour, utilizing hand brushing and pouring of plastics and fillers, exhausting through one (1) stack (ID No. X);
(3) four (4) vertical CNC mills (ID Unit Nos. CNC1, CNC2, CNC3, and CNC4), each to machine wood patterns, exhausting into a building;
(4) three (3) sand storage silos with pneumatic conveyors;
(5) two (2) electric furnaces used for holing molten aluminum;
(6) aluminum pouring and mold cooling lines; and
(7) miscellaneous abrasive wheels and band saws located throughout the foundry building.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

(a) Air Pollution Operation Permit Registration No. T61, issued by the St. Joseph County Health Department on March 1, 1994; and

(b) Significant Source Modification No. SSM 141-11172-00120, issued on October 6, 1999.

The 3-part phenolic urethane resin mixing system, permitted in SSM 141-11172-00120, issued October 6, 1999, will not be constructed or operated and is not included in this FESOP. All other conditions from previous approvals were incorporated into this FESOP.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
DCX-1	Woodworking	15.67	1.5x2.5	4,000	68
DCX-2	Sand Blaster	13.25	1.0x0.5	5,000	68
DCX-3	Shot Blaster	15.0	0.67	6,000	68
Y	Surface Coating	13.0	2.0	750	68
Z	Welding	12.83	1.0	750	68
EDM-1	EDM Machine	12.0	1.5x1.0	100	68
X	Plastic Shop	13.0	2.0	750	68
BLR	Boiler	21.67	0.83	7,500 (dscfm)	170

Enforcement Issue

(a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled *Unpermitted Emission Units and Pollution Control Equipment.*

(b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Recommendation

The staff recommends to the Commissioner that the FESOP be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An administratively complete Part 70 application for the purposes of this review was received on July 2, 1996. Additional information was received on March 30, 1999 and April 8, 1999. A letter received on June 5, 2000 requested that the application be converted to a FESOP application. The applicant requested the addition of new equipment during the public comment period which would require a significant permit revision. Since this FESOP was not yet issued, it will be re-public noticed with the inclusion of the new equipment. An administratively complete construction application for the new equipment to be incorporated into the FESOP was received on January 12, 2001 with additional information received on February 27, 2001.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (13 pages).

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	500.12
PM-10	182.06
SO_2	0.04
VOC	12.79
CO	0.82
NO_x	0.83

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

HAP's	Potential To Emit (tons/year)
Vinyl Acetate	less than 10
Styrene	less than 10
Toluene	less than 10
MEK	less than 10
Dimethyl Phthalate	less than 10
Methanol	less than 10
MIBK	less than 10
MDI	less than 10
Hydroquinone	less than 10
Formaldehyde	less than 10
Phenol	less than 10
TOTAL	less than 25

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of PM-10 is equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(b) This source, otherwise required to obtain a Title V permit, has agreed to accept a permit with federally enforceable limits that restrict its PTE to below the Title V emission levels. Therefore, this source will be issued a Federally Enforceable State Operating Permit (FESOP), pursuant to 326 IAC 2-8.

(c) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 1998 OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM	N/A
PM-10	0.11
SO_2	0.0
VOC	10.66
CO	0.0
NO_x	0.0
Ethylene Glycol	0.0078
Toluene	0.60
Phenol	0.47
Xylenes	0.01
Methanol	0.09
MEK	0.10
MDI	1.64
MIBK	0.09
Styrene	0.64
1,2,4 Trimethylbenzene	0.18

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Federally Enforceable State Operating Permit.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_X	HAPs
Foundry furnaces	3.85	3.85	0.04	0.34	0.29	0.20	negl.
Surface Coating	0.83	0.83	0.0	6.51	0.0	0.0	6.12
Woodworking	4.38	4.38	0.0	0.0	0.0	0.0	0.0
Sand Blaster	7.67	18.01	0.0	0.0	0.0	0.0	0.0
Shot Blaster	6.57	18.01	0.0	0.0	0.0	0.0	0.0
Sand/Resin Mixing	*215.00	43.8	0.0	5.43	0.0	0.0	5.43
Insignificant Activities	11.12	11.12	0.0	0.51	0.53	0.63	negl.
Total Emissions	249.42	< 100	0.04	12.79	0.82	0.83	11.55
PSD Thresholds	< 250	< 250	< 250	< 250	< 250	< 250	n/a

**Note: The PM allowable emissions for the sand/resin mixing is equivalent to 240.81 tons per year. This table reflects the PM limit for PSD applicability.*

County Attainment Status

The source is located in St. Joseph County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	maintenance
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. St. Joseph County has been designated as attainment or unclassifiable for ozone.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 1-6-3 (Preventive Maintenance Plan)

The source has submitted Preventive Maintenance Plans (PMP) on July 2, 1996 and March 30, 1999.

326 IAC 2-2 (Prevention of Significant Deterioration)

This source is not subject to the requirements of 326 IAC 2-2 (PSD) because the potential emissions of all regulated pollutants is less than 250 tons per year and it is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2. This source melts aluminum ingots to put the aluminum into flow or liquid for the purpose of filling a sand mold. It does not recover aluminum from scrap and does not produce alloys, therefore, it is not a secondary metal production plant.

326 IAC 2-6 (Emission Reporting)

This source is located in St. Joseph County and does not have the potential to emit VOC or NO_X at greater than a ten (10) ton per year rate. It also does not have the potential to emit CO, PM-10, or SO_2 at greater than one hundred (100) ton per year rate. Therefore, 326 IAC 2-6 does not apply.

326 IAC 2-8 (FESOP)

This source is subject to 326 IAC 2-8-4 (FESOP). Pursuant to this rule, PM10 emissions from the sand blaster (ID Unit No. SB), and the shot blaster (ID Unit No. SHB) will be controlled by two (2) dust collectors (ID Nos. DC-2 and DC-3) which will limit the source-wide PM10 emissions to less than 100 tons per year. Therefore, the requirements of 326 IAC 2-7 do not apply.

326 IAC 5-1 (Opacity Limitations)

Since this source is located in St. Joseph County in the area north of Kern Road and east of Pine Road, it is subject to the requirements of 326 IAC 5-1-2(2). Pursuant to 326 IAC 5-1-2(2) (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of thirty percent (30%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

This source is subject to 326 IAC 6-4 for fugitive dust emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), fugitive dust shall not be visible crossing the boundary or property line of a source. Observances of visible emissions crossing property lines may be refuted by factual data expressed in 326 IAC 6-4-2 (1), (2), or (3).

State Rule Applicability - Individual Facilities

326 IAC 2-4.1 (New Source Toxics Control)

This rule applies to new or reconstructed facilities with potential emissions of any single HAP equal to or greater than ten (10) tons per year and potential emissions of combination of HAPs greater than or equal to twenty-five (25) tons per year. Since potential emissions from this facility are less than ten (10) tons per year of a single HAP and the potential emissions from combination of HAPs is less than twenty-five (25) tons per year, the requirements of 326 IAC 2-4.1 do not apply.

326 IAC 6-1-2 (Particulate Emissions Limitations)

The particulate matter emissions from the pattern shop surface coating operation (ID Nos. PS-9, PS-10, and PS-11), the pattern shop woodworking operation (ID Unit Nos. PS-1 through PS-8, PS-12 and PS-13), the pneumatic sand blaster (ID Unit No. SB), the shot blaster (ID Unit No. SHB), the two (2) melt furnaces (ID Nos. FF1, and FF5), and the core oven (ID Unit No. 1682), are subject to the requirements of 326 IAC 6-1-2 (Particulate Emissions Limitations) because this source is located in St. Joseph county and has the potential to emit greater than 100 tons per year of particulate matter. Pursuant to 326 IAC 6-1-2(a), the particulate matter emissions from each of the facilities listed above shall be limited to 0.03 grains per dry standard cubic foot (gr/dscf). This is equivalent to a particulate emission rate of the following:

Process/Facility	Exhaust Flow Rate (dscfm)	PM Emission Rate (lb/hr)
Pattern Shop Surface Coating	730	0.19
Pattern Shop Woodworking	3,896	1.00
Pneumatic Sand Blaster	6,817	1.75
Shot Blaster	5,843	1.50
Furnaces	1,704	0.44 each
Core Oven	1,169	0.10

326 IAC 6-1-2 does not apply to the two (2) Omega sand mixers because the mixers do not have an exhaust point or air flow associated with them. 326 IAC 6-1-2 does not apply to the torch burn-off because it does not have an air flow associated it.

The dry filters shall be in operation at all times that the spray guns in the surface coating operation are in operation, in order to comply with this limit. The dust collectors for the pattern shop woodworking operation (ID No. DC-1), the pneumatic sand blaster (ID No. DC-2) and the shot blaster (ID No. DC-3) shall be in operation at all times these units are in operation, in order to comply with this limit. Potential particulate matter emissions from each of the two (2) melt furnaces are less than the allowable emissions pursuant to this rule, therefore, these units are in compliance with the rule see Appendix A, pages 2, 6, 7, 8, and 9). Potential emissions from the boiler (ID No. BLR) are less than the allowable emissions pursuant to this rule, therefore, this unit is in compliance with the rule (see Appendix A, page 3).

Pursuant to 326 IAC 6-1-4(b), testing of the surface coating operation, the woodworking operation and the one (1) melt furnaces identified as FF1 is not required because each of these units were constructed and in operation prior to August 27, 1980. Testing of the new melt furnace identified as FF5 and the boiler (ID No. BLR) is not required because potential PM emissions from each unit are less than 40 tons per year and these units do not require a control device to achieve compliance with the PM limit.

326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)

The boiler (ID Unit No. BLR), an insignificant activity constructed in 1971, is subject to the requirements of 326 IAC 6-2-3 because it is an indirect heater and was existing and in operation before September 21, 1983. Pursuant to this rule, particulate emissions from the boiler shall be limited by the following equation:

$$Pt = \frac{C \times a \times h}{76.5 \times Q^{0.75} \times N^{0.25}}$$

Q = 0.67 MMBtu per hour

$$Pt = \frac{50 \times 0.67 \times 13}{76.5 \times 0.67^{0.75} \times 1^{025}} = 7.69 \text{ lb/MMBtu}$$

The allowable particulate emission rate from the 0.67 MMBtu per hour boiler, based on the above equation, is 7.7 pounds per MMBtu heat input. However, pursuant to 326 IAC 6-2-3(d), the allowable PM emission rate from any facility which began operation before June 8, 1972, shall in no case exceed 0.8 pounds per MMBtu heat input. Therefore, the allowable PM emission rate from the 0.67 MMBtu per hour boiler is 0.8 pounds per MMBtu heat input. This is equivalent to a particulate matter emission rate of 0.54 pounds per hour. The boiler has a potential PM emission rate of 0.007 pounds per MMBtu heat input, therefore, it will comply with 326 IAC 6-2-3.

Pursuant to 326 IAC 6-2-1(e), this rule does not apply if the limitation established in the rule is inconsistent with applicable limitations in 326 IAC 6-1. Since the limit pursuant to 326 IAC 6-2-3 is more stringent than the limit pursuant to 326 IAC 6-1-2, this limit is not inconsistent with the limit pursuant to 326 IAC 6-1-2 and is therefore applicable.

326 IAC 6-3-2 (Process Operations)

(a) The particulate matter (PM) from the two (2) omega sand mixers shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10\ P^{0.67}$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Emission Unit	Process Weight Rate (tons/hr)	Uncontrolled PM Emissions (lb/hr)	Control Efficiency %	Controlled PM Emissions (lb/hr)	Allowable PM Emissions (326 IAC 6-3-2) (lb/hr)
Omega sand mixer OSM1	21.0	75.60	90	7.56	31.53
Omega sand mixer OSM2	13.5	48.6	90	4.86	23.45

The 90% control efficiency represents that the omega sand mixers are enclosed units with no exhaust points and the sand entering the units is moist because it has been treated with liquid resin and liquid co-reactant.

(b) The pattern shop surface coating operation, the pattern shop woodworking operation, the two (2) melt furnaces, the pneumatic sand blaster, and the shot blaster are not subject to the requirements of 326 IAC 6-3-2. This rule does not apply if the limitation established in the rule is not consistent with applicable limitations in 326 IAC 6-1 or 326 IAC 12. Since the applicable PM limit established by 326 IAC 6-1-2 for each of these units is less than the PM limit that would be established by 326 IAC 6-3-2, the more stringent limit applies and the limit pursuant to 326 IAC 6-3-2 does not apply.

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

The pattern shop surface coating operation is not subject to the requirements of 326 IAC 8-1-6 (BACT) because this facility was constructed in 1971, prior to the January 1, 1980 applicability date of this rule and potential VOC emissions are less than 25 tons per year. The plastic shop plastic mold making operation is not subject to the requirements of 326 IAC 8-1-6 because potential VOC emissions from this operation are less than 25 tons per year. The two (2) Omega mixers with the Phenolic Ester no-bake binder system is not subject to the requirements of 326 IAC 8-1-6 because the potential VOC emissions less than 25 tons per year.

326 IAC 8-6 (Organic Solvent Emission Limitations)

This source is not subject to 326 IAC 8-6 because the source has potential VOC emissions of less than 100 tons per year, and the source commenced operation prior to October 7, 1974.

No other Article 8 rules apply.

Testing Requirements

Testing for PM is required for the two (2) Omega Mixers to verify the applicant's use of at least a 90 percent control efficiency where there is no control device.

Testing for PM is required for the shot blaster because this unit has not been tested before, and has a control device which is necessary to achieve compliance with 326 IAC 6-1-2. Operating parameters for this control device will be verified in this stack test.

Pursuant to 326 IAC 6-1-4(b), testing of the surface coating operation, the woodworking operation and the one (1) melt furnace identified as FF1 is not required because each of these units were constructed and in operation prior to August 27, 1980. Testing of the new melt furnace identified as FF5 and the boiler (ID No. BLR) is not required because potential PM emissions from each unit are

less than 40 tons per year and these units do not require a control device to achieve compliance with the PM limit.

Compliance Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

1. The pattern shop woodworking operation has applicable compliance monitoring conditions as specified below:

   (a) Daily visible emissions notations of the woodworking operation dust collector (DC-1) stack exhaust shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

   (b) The Permittee shall record the total static pressure drop across the dust collector controlling the woodworking operation, at least once weekly when the equipment in the woodworking operation are in operation. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the dust collector shall be maintained within the range of 4.0 to 8.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

   These monitoring conditions are necessary because the dust collector for the woodworking operation must operate properly to ensure compliance with 326 IAC 6-1-2 (Particulate Emission Limitations) and 326 IAC 2-8 (FESOP).

2. The pneumatic sand blaster has applicable compliance monitoring conditions as specified below:

   (a) Once per shift visible emissions notations of the pneumatic sand blaster dust collector (DC-2) stack exhaust shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

   (b) The Permittee shall record the total static pressure drop across the dust collector controlling the pneumatic sand blaster, at least once per shift when the sand blaster is in operation. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the dust collector shall be maintained within the range of 2.0 to 3.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

   (c) An inspection shall be performed each calendar quarter of all bags controlling the pneumatic sand blaster when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

   These monitoring conditions are necessary because the dust collector for the pneumatic sand blaster must operate properly to ensure compliance with 326 IAC 6-1-2 (Particulate Emission Limitations) and 326 IAC 2-8 (FESOP).

3. The shot blaster has applicable compliance monitoring conditions as specified below:

   (a) Once per shift visible emissions notations of the shot blaster dust collector (DC-3) stack exhaust shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

(b) The Permittee shall record the total static pressure drop across the dust collector controlling the shot blaster, at least once per shift when the shot blaster is in operation. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the dust collector shall be maintained within the range of 4.0 to 8.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

(c) An inspection shall be performed each calendar quarter of all bags controlling the shot blaster when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

These monitoring conditions are necessary because the dust collector for the shot blaster must operate properly to ensure compliance with 326 IAC 6-1-2 (Particulate Emission Limitations) and 326 IAC 2-8 (FESOP).

4. The pattern shop surface coating operation has applicable compliance monitoring conditions as specified below:

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stack while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

These monitoring conditions are necessary because the dry filters for the surface coating operation must operate properly to ensure compliance with 326 IAC 6-1-2 (Particulate Emission Limitations) and 326 IAC 2-8 (FESOP).

5. There are no compliance monitoring requirements applicable to the Omega Sand Mixers or foundry furnaces because they do not meet the IDEM, OAM criteria for requiring compliance monitoring.

Conclusion

The operation of this aluminum mold making source shall be subject to the conditions of the attached proposed **FESOP No.: F141-6217-00120.**

Appendix A: Emission Calculations Summary

Company Name: Total Industries, Int'l., A Division of Total Enterprises, Ltd.
Address City IN Zip: 3333 West Lathrop Drive, South Bend, Indiana 46619
Operation Permit No.: F141-6217
Plt ID: 141-00120
Reviewer: Linda Quigley/EVP
Date: January 29, 2001

Uncontrolled Potential Emissions (tons/year)

	Emissions Generating Activity						
Pollutant	Foundry Furnaces*	Surface Coating	Woodworking	Abrasive Blasting	Resin Mixing System	Insignificant Activities**	**TOTAL**
PM	0.01	2.56	8.11	149.98	331.13	8.33	500.12
PM10	0.03	2.56	8.11	113.32	49.67	8.37	182.06
SO2	0.04	0.00	0.00	0.00	0.00	0.00	0.04
NOx	0.20	0.00	0.00	0.00	0.00	0.63	0.83
VOC	0.34	6.51	0.00	0.00	5.43	0.51	12.79
CO	0.29	0.00	0.00	0.00	0.00	0.53	0.82
total HAPs	negl.	6.12	0.00	0.00	5.43	negl.	11.55
worst case single HAP	negl.	2.29	0.00	0.00	1.24	negl.	2.29

Total emissions based on rated capacity at 8,760 hours/year.

* Based on information provided by the applicant, there are no particulate matter emissions from the melting of aluminum in the furnaces to put it into flow. The process is comparable to aluminum die casting.

** Insignificant Activities include emissions from the 0.67 MMBtu/hr boiler, the 0.58 MMBtu/hr core oven, the 0.43 MMBtu/hr torch burn off, the Plastics Shop, and the Welding and Cutting operation.

Controlled Potential Emissions (tons/year)

	Emissions Generating Activity						
Pollutant	Foundry Furnaces*	Surface Coating	Woodworking	Abrasive Blasting	Resin Mixing System	Insignificant Activities**	**TOTAL**
PM	0.01	0.13	0.41	0.27	33.11	8.33	42.26
PM10	0.03	0.13	0.41	0.23	4.97	8.37	14.14
SO2	0.04	0.00	0.00	0.00	0.00	0.00	0.04
NOx	0.20	0.00	0.00	0.00	0.00	0.63	0.83
VOC	0.34	6.51	0.00	0.00	5.43	0.51	12.79
CO	0.29	0.00	0.00	0.00	0.00	0.53	0.82
total HAPs	negl.	6.12	0.00	0.00	5.43	negl.	11.55
worst case single HAP	negl.	2.29	0.00	0.00	1.24	negl.	2.29

Total emissions based on rated capacity at 8,760 hours/year, after control.

* Based on information provided by the applicant, there are no particulate matter emissions from the melting of aluminum in the furnaces to put it into flow. The process is comparable to aluminum die casting.

** Insignificant Activities include emissions from the 0.67 MMBtu/hr boiler, the 0.58 MMBtu/hr core oven, the 0.43 MMBtu/hr torch burn off, the Plastics Shop, and the Welding and Cutting operation.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: Total Industries, Int'l., A Division of Total Enterprises, Ltd.
Address City IN Zip: 3333 West Lathrop Drive, South Bend, Indiana 46619
Operating Permit No.: F141-6217
Plt ID: 141-00120
Reviewer: Linda Quigley/EVP
Date: January 29, 2001

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
0.8	7.0

Heat Input Capacity includes:
one (1) 0.8 MMBtu/hr gas-electric hybrid foundry furnace (ID Unit No. FF5) with a low NOx burner.

	Pollutant					
	PM*	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	50.0 *see below	5.5	84.0
Potential Emission in tons/yr	0.01	0.03	0.00	0.18	0.02	0.29

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
PM emission factors are condensable and filterable.

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
See page 4 for HAPs emissions calculations.

326 IAC 6-1-2 Compliance Calculation

$$\frac{0.01 \text{ ton/yr} * 2000 \text{ lb/ton} * 7000 \text{ gr/lb}}{525{,}600 \text{ min/yr} * 1{,}704 \text{ dscf/min}} = 0.0001 \text{ gr/dscf}$$ (will comply)

Allowable particulate emissions under 326 IAC 6-1-2 equate to 1.92 tons per year, or 0.44 lbs/hr.

Note:
SCFM = 1,750 acfm * (460 + 68)*(1-0.0261) / (460 + 68)
= 1,704 dscfm
Assumes exhaust gas temperature of 68F, exhaust gas moisture content of 2.61% and exhaust gas flow of 1,750 acfm.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: Total Industries, Int'l., A Division of Total Enterprises, Ltd.
Address City IN Zip: 3333 West Lathrop Drive, South Bend, Indiana 46619
Operating Permit No.: F141-6217
Plt ID: 141-00120
Reviewer: Linda Quigley/EVP
Date: January 29, 2001

	Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
one (1) boiler	0.67	5.9
one (1) core oven	0.58	5.1
one (1) torch burn off	0.188	1.6
Total	**1.438**	**12.6**

	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 *see below	5.5	84.0
Potential Emission in tons/yr (BLR)	0.01	0.02	0.00	0.29	0.02	0.25
Potential Emission in tons/yr (core oven)	0.00	0.02	0.00	0.25	0.01	0.21
Potential Emission in tons/yr (torch burn off)	0.00	0.01	0.00	0.08	0.00	0.07
Total Potential Emission in tons/yr	**0.01**	**0.05**	**0.00**	**0.63**	**0.03**	**0.53**

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
PM emission factors are condensable and filterable.
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
See page 4 for HAPs emissions calculations.

326 IAC 6-1-2 Compliance Calculations

Stack BLR - PM emissions limited to 0.01 gr/dscf

0.01 ton/yr * 2000 lb/ton * 7000 gr/lb = 0.00002 gr/dscf (will comply)
525,600 min/yr * 7,500 dscf/min

Allowable particulate emissions under 326 IAC 6-1-2 equate to 2.82 tons per year, or 0.64 lbs/hr.

Core Oven - PM emissions limited to 0.03 gr/dscf

0.00 ton/yr * 2000 lb/ton * 7000 gr/lb = 0.00011 gr/dscf (will comply)
525,600 min/yr * 1,169 dscf/min

Allowable particulate emissions under 326 IAC 6-1-2 equate to 0.44 tons per year, or 0.10 lbs/hr.

MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name: Total Industries, Int'l., A Division of Total Enterprises, Ltd.
Address City IN Zip: 3333 West Lathrop Drive, South Bend, Indiana 46619
Operating Permit No.: F141-6217
Plt ID: 141-00120
Reviewer: Linda Quigley/EVP
Date: January 29, 2001

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.00	0.00	0.00	0.02	0.00

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	0.00	0.00	0.00	0.00	0.00

Methodology is the same as page 2.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Secondary Metal Production
Aluminum

Company Name: Total Industries, Int'l., A Division of Total Enterprises, Ltd.
Address City IN Zip: 3333 West Lathrop Drive, South Bend, Indiana 46619
Operating Permit No.: F141-6217
Plt ID: 141-00120
Reviewer: Linda Quigley/EVP
Date: January 29, 2001

SCC# 3-04-001-14
gas-electric hybrid furnace (FF5)
Pouring/Casting

TYPE OF MATERIAL		Throughput LBS/HR	1 TON/2000 lbs	TON/HR		
Aluminum		475	2000	0.2375		
	PM lbs/ton metal produced	**PM10** lbs/ton metal produced	**SOx** lbs/ton metal produced	**NOx** lbs/ton metal produced	**VOC** lbs/ton metal produced	**CO** lbs/tons metal produced
	–	–	0.02	0.01	0.14	–
Potential Emissions lbs/hr	–	–	0.00	0.00	0.03	–
Potential Emissions lbs/day	–	–	0.11	0.06	0.80	–
Potential Emissions tons/year	–	–	0.02	0.01	0.15	–

Note: Emission factors from FIRE version 6.01

SCC# 3-04-001-14
electric furnace (FF1)
Pouring/Casting

TYPE OF MATERIAL		Throughput LBS/HR	1 TON/2000 lbs	TON/HR		
Aluminum		545	2000	0.2725		
	PM lbs/ton metal produced	**PM10** lbs/ton metal produced	**SOx** lbs/ton metal produced	**NOx** lbs/ton metal produced	**VOC** lbs/ton metal produced	**CO** lbs/tons metal produced
	–	–	0.02	0.01	0.14	–
Potential Emissions lbs/hr	–	–	0.01	0.00	0.04	–
Potential Emissions lbs/day	–	–	0.13	0.07	0.92	–
Potential Emissions tons/year	–	–	0.02	0.01	0.17	–

Note: Emission factors from FIRE version 6.01

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Company Name: Total Industries, Int'l., A Division of Total Enterprises, Ltd.
Address City IN Zip: 3333 West Lathrop Drive, South Bend, Indiana 46619
Operation Permit No.: F141-6217
Plt ID: 141-00120
Reviewer: Linda Quigley/EVP
Date: January 29, 2001

Material	Density (Lb/Gal)	Weight % Volatile (H20& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential ton/yr	lb VOC /gal solids	Transfer Efficiency
Pattern Shop Y - PS-9 through PS-11																
Fast Set White Cold Glue	9.17	50.90%	49.1%	1.8%	54.0%	50.00%	0.0001	63.6	0.36	0.17	0.00	0.03	0.00	0.03	0.33	75%
Bondtite XL Light	9.50	16.90%	0.0%	16.9%	0.0%	49.50%	0.0038	63.6	1.61	1.61	0.39	9.31	1.70	2.09	3.24	75%
35% Red Cream Hardener	10.00	18.00%	18.0%	0.0%	21.0%	79.00%	0.0001	63.6	0.00	0.00	0.00	0.00	0.00	0.06	0.00	75%
Lacquer Sanding Sealer	7.15	88.00%	0.0%	88.0%	0.0%	13.50%	0.0002	63.6	6.29	6.29	0.08	1.92	0.35	0.01	46.61	75%
Cream Hardener	10.00	32.80%	17.1%	15.7%	20.5%	67.20%	0.0008	63.6	1.97	1.57	0.08	1.92	0.35	0.37	2.34	75%
Lacquer Thinner	7.02	100.00%	0.0%	100.0%	0.0%	0.00%	0.0021	63.6	7.02	7.02	0.94	22.49	4.10	0.00	N/A	75%
Plastic Shop X																
Filler 7 White*	14.20	1.00%	0.1%	0.9%	0.2%	71.00%	0.0002	6.2	0.13	0.13	0.00	0.00	0.00	0.00	0.18	100%
Filler 7 Gray*	14.20	1.00%	0.1%	0.9%	0.2%	71.00%	0.0001	6.2	0.13	0.13	0.00	0.00	0.00	0.00	0.18	100%
Hi Speed Hardener Paste	10.00	20.00%	20.0%	0.0%	24.0%	76.00%	0.0001	6.2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
Isofoam R-1322B	9.50	18.00%	0.0%	18.0%	0.0%	84.00%	0.0082	6.2	1.71	1.71	0.09	2.08	0.38	0.00	2.04	100%
Isofoam A	10.25	0.00%	0.0%	0.0%	0.0%	100.00%	0.0080	6.2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
Epocast 60 Hardener	8.47	5.00%	0.0%	5.0%	0.0%	95.00%	0.0070	6.2	0.42	0.42	0.02	0.44	0.08	0.00	0.45	100%
Epocast 60 Resin	12.35	0.22%	0.0%	0.2%	0.0%	99.78%	0.0300	6.2	0.03	0.03	0.01	0.12	0.02	0.00	0.03	100%
Total State Potential Emissions:											**1.60**	**38.31**	**6.99**	**2.56**		

Federal Potential Emissions (controlled):

	Control Efficiency:		Controlled VOC lbs per Hour	Controlled VOC lbs per Day	Controlled VOC tons per Year	Controlled PM tons/yr
	VOC	PM				
Total Federal Potential Emissions:	0.00%	95.00%	**1.60**	**38.31**	**6.99**	**0.13**

* Note: The weight percent VOC in the Filler 7 Gray and Filler 7 White is based on manufacturer supplied information.

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Sum of all coatings and solvents used

326 IAC 6-1-2 Compliance Calculation

Stack Y

0.13 ton/yr * 2000 lb/ton * 7000 gr/lb = 4.7E-03 gr/dscf (will comply)
525,600 min/yr * 730 dscf/min

Allowable particulate emissions under 326 IAC 6-1-2 equate to 0.82 tons per year, or 0.19 lbs/hr.

Note:

SCFM = 750 acfm * (460 + 68)*(1-0.0261) / (460 + 68)
= 730 dscfm

Assumes exhaust gas temperature of 68F, exhaust gas moisture content of 2.61% and exhaust gas flow of 750 acfm.

Appendix A: Process Particulate Emissions

Company Name: Total Industries, Int'l., A Division of Total Enterprises, Ltd.
Address City IN Zip: 3333 West Lathrop Drive, South Bend, Indiana 46619
Operation Permit No.: F141-6217
Plt ID: 141-00120
Reviewer: Linda Quigley/EVP
Date: January 29, 2001

Uncontrolled Potential Emissions (tons/year)

Baghouse DC-1 (Woodworking)

Process	No. of Units	Grain Loading per Actual Cubic Foot of Outlet Air	Air to Cloth Ratio Air Flow (acfm/ft²)	Total Filter Area (ft²)	Control Efficiency	Total (tons/yr)
PS-1 - PS-8, PS-12, PS-13	1	0.00270	10.0	400	95.00%	8.11

Total Emissions Based on Rated Capacity at 8,760 Hours/Year **8.11**

Controlled Emissions (tons/year)

Baghouse DC-1 (Woodworking)

Process	No. of Units	Grain Loading per Actual Cubic Foot of Outlet Air	Air to Cloth Ratio Air Flow (acfm/ft²)	Total Filter Area (ft²)	Control Efficiency	Total PM Emissions (tons/yr)
PS-1 - PS-8, PS-12, PS-13	1	0.00270	10.0	400	95.00%	0.41

Total Emissions Based on Rated Capacity at 8,760 Hours/Year **0.41**

326 IAC 6-1-2 Compliance Calculation

Baghouse DC-1

0.41 ton/yr * 2000 lb/ton * 7000 gr/lb = 2.8E-03 gr/dscf (will comply)
525,600 min/yr * 3,896 dscf/min

Allowable particulate emissions under 326 IAC 6-1-2 equate to 4.39 tons per year, or 1.00 lbs/hr.

Note:

SCFM = 4,000 acfm * (460 + 68)*(1-0.0261) / (460 + 68)
= 3,896 dscfm

Assumes exhaust gas temperature of 68F, exhaust gas moisture content of 2.61% and exhaust gas flow of 4,000 acfm.

Methodology:

Potential (uncontrolled):

Baghouse (tons/yr) = No. Units * Loading (grains/acf) * Air/Cloth Ratio (acfm/ft²) * Filter Area (ft²) * 1 lb/7,000 grains * 60 min/hr * 8760 hr/yr * 1 ton/2,000 lbs * 1/(1-Control Efficiency)

Potential (controlled):

Baghouse (tons/yr) = No. Units * Loading (grains/acf) * Air/Cloth Ratio (acfm/ft²) * Filter Area (ft²) * 1 lb/7,000 grains * 60 min/hr * 8760 hr/yr * 1 ton/2,000 lbs

Appendix A: Emission Calculations
Abrasive Blasting for Unit ID SB

Company Name: Total Industries, Int'l., A Division of Total Enterprises, Ltd.
Address City IN Zip: 3333 West Lathrop Drive, South Bend, Indiana 46619
Operation Permit No.: F141-6217
Plt ID: 141-00120
Reviewer: Linda Quigley/EVP
Date: January 29, 2001

Table 1 - Emission Factors for Abrasives

	Emission Factor	
Abrasive	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	160
Sand	99
Steel	487

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

	Nozzle Pressure (psig)							
Internal diameter, in	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)

FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =	600
D = Density of abrasive (lb/ft3) From Table 2 =	90
D1 = Density of sand (lb/ft3) =	99
ID = Actual nozzle internal diameter (in) =	0.375
ID1 = Nozzle internal diameter (in) from Table 3 =	0.375

Flow Rate (FR) (lb/hr) = **545.455** per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =	0.041
FR = Flow Rate (lb/hr) =	545.455
w = fraction of time of wet blasting =	0 %
N = number of nozzles =	1

Uncontrolled PM Emissions =	**22.36 lb/hr**
	97.95 ton/yr
Uncontrolled PM-10 Emissions =	**15.65 lb/hr**
	68.57 ton/yr

Baghouse DC-2 Control Efficiency: **99.99%**

Controlled PM Emissions =	**2.2E-03 lb/hr**
	0.01 ton/yr
Controlled PM-10 Emissions =	**1.6E-03 lb/hr**
	0.01 ton/yr

326 IAC 6-1-2 Compliance Calculation

Baghouse DC-2

0.01	ton/yr *	2000	lb/ton *	7000	gr/lb =	3.8E-05	gr/dscf	(will comply)
525,600	min/yr *	6,817	dscf/min					

Allowable particulate emissions under 326 IAC 6-1-2 equate to 7.68 tons per year, or 1.75 lbs/hr.

Note:

SCFM = 7,000 acfm * (460 + 68)*(1-0.0261) / (460 + 68)
= 6,817 dscfm

Assumes exhaust gas temperature of 68F, exhaust gas moisture content of 2.61% and exhaust gas flow of 7,000 acfm.

METHODOLOGY

Emission Factors from Stappa Alapco, Section 3 "Abrasive Blasting"
Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs
Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)
E = EF x FR x (1-w/200) x N
w should be entered in as a whole number (if w is 50%, enter 50)

Appendix A: Emission Calculations
Abrasive Blasting for Unit ID SHB

Company Name: Total Industries, Int'l., A Division of Total Enterprises, Ltd.
Address City IN Zip: 3333 West Lathrop Drive, South Bend, Indiana 46619
Operation Permit No.: F141-6217
Plt ID: 141-00120
Reviewer: Linda Quigley/EVP
Date: January 29, 2001

Table 1 - Emission Factors for Abrasives

	Emission Factor	
Abrasive	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	160
Sand	99
Steel	487

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

	Nozzle Pressure (psig)							
Internal diameter, in	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)
FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 = 600
D = Density of abrasive (lb/ft3) From Table 2 = 490
D1 = Density of sand (lb/ft3) = 99
ID = Actual nozzle internal diameter (in) = 0.375
ID1 = Nozzle internal diameter (in) from Table 3 = 0.375

Flow Rate (FR) (lb/hr) = 2969.697 per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 = 0.004
FR = Flow Rate (lb/hr) = 2969.697
w = fraction of time of wet blasting = 0 %
N = number of nozzles = 1

Uncontrolled PM Emissions = 11.88 lb/hr
52.03 ton/yr
Uncontrolled PM-10 Emissions = 10.22 lb/hr
44.75 ton/yr

Baghouse DC-3 Control Efficiency: 99.50%

Controlled PM Emissions = 0.06 lb/hr
0.26 ton/yr
Controlled PM-10 Emissions = 0.05 lb/hr
0.22 ton/yr

326 IAC 6-1-2 Compliance Calculation

Baghouse DC-3

0.26 ton/yr * 2000 lb/ton * 7000 gr/lb = 1.2E-03 gr/dscf (will comply)
525,600 min/yr * 5,843 dscf/min

Allowable particulate emissions under 326 IAC 6-1-2 equate to 6.58 tons per year, or 1.50 lbs/hr.

Note:
SCFM = 6,000 acfm * (460 + 68)*(1-0.0261) / (460 + 68)
= 5,843 dscfm
Assumes exhaust gas temperature of 68F, exhaust gas moisture content of 2.61% and exhaust gas flow of 6,000 acfm.

METHODOLOGY
Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)
Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs
Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)
E = EF x FR x (1-w/200) x N
w should be entered in as a whole number (if w is 50%, enter 50)

Appendix A: Emission Calculations
Welding and Oxygen Cutting of Metal

Company Name: Total Industries, Int'l., A Division of Total Enterprises, Ltd.
Address City IN Zip: 3333 West Lathrop Drive, South Bend, Indiana 46619
Operation Permit No.: F141-6217
Plt ID: 141-00120
Reviewer: Linda Quigley/EVP
Date: January 29, 2001

Type of Welding	Number of Welding Stations	Maximum Electrode Consumption per Station (lb/hr)	Emission Factors				Emissions			
			PM/PM10 lb/lb	Manganese lb/lb	Nickel lb/lb	Chromium lb/lb	PM/PM10 tons/yr	Manganese tons/yr	Nickel tons/yr	Chromium tons/yr
MIG Welding (ST3, ST4, & ST5)	3	6.0	0.0775	--	--	--	6.11	0.00	0.00	0.00
TIG Welding (ST1, ST6)	2	2.0	0.0775	--	--	--	1.36	0.00	0.00	0.00

Methodology:
Emissions (tons/yr) = Maximum Consumption (lbs/hr) * Emission Factor (lb/lb) * (8,760 hr/yr) * (1 ton/2,000 lbs)
Emission Factors from SARA 313 Reporting Guide.

Type of Flame Cutting	Number of Cutting Stations	Maximum Metal Cutting Rate (inches/hr)	Emission Factors				Emissions			
			PM/PM10 lb/1000 inches	Manganese lb/1000 inches	Nickel lb/1000 inches	Chromium lb/1000 inches	PM/PM10 tons/yr	Manganese tons/yr	Nickel tons/yr	Chromium tons/yr
Oxyacetylene Flame-Cutting (ST2)	1	600	0.1622	0.0005	0.0001	0.0003	0.85	0.00	0.00	0.00
						Total:	**8.32**	**0.00**	**0.00**	**0.00**

Methodology:
Emissions (tons/yr) = Maximum Cutting Rate (inches/hr) / 1000 * Emission Factor (lb/1000 inches cut 1" thick) * (8,760 hr/yr) * (1 ton/2,000 lbs) * (Actual thickness (in) /1 in)
Emission Factors from SARA 313 Reporting Guide.

Appendix A: Emissions Calculations
HAP Emission Calculations (Page 1 of 2)

Company Name: Total Industries, Int'l., A Division of Total Enterprises, Ltd.
Address City IN Zip: 3333 West Lathrop Drive, South Bend, Indiana 46619
Operation Permit No.: F141-6217
Plt ID: 141-00120
Reviewer: Linda Quigley/EVP
Date: January 29, 2001

Material	Density (Lb/Gal)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Weight % Vinyl Acetate	Weight % Styrene	Weight % Toluene	Weight % MEK	Weight % Dimethyl Phthalate	Weight % Methanol	Weight % MIBK	Weight % MDI	Weight % Hydroquinone
Pattern Shop Y - PS-9 through PS-11												
Fast Set White Cold Glue	9.17	0.0001	63.6	1.80%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Bondtite XL Light	9.50	0.0038	63.6	0.00%	15.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
35% Red Cream Hardener	10.00	0.0001	63.6	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Lacquer Sanding Sealer	7.15	0.0002	63.6	0.00%	0.00%	10.00%	20.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Cream Hardener	10.00	0.0008	63.6	0.00%	0.00%	0.00%	0.00%	32.00%	0.00%	0.00%	0.00%	0.00%
Lacquer Thinner	7.02	0.0021	63.6	0.00%	0.00%	54.80%	14.50%	0.00%	8.06%	14.50%	0.00%	0.00%
Plastic Shop X												
Filler 7 White	14.20	0.0002	6.2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.10%
Filler 7 Gray	14.20	0.0001	6.2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.10%
Hi Speed Hardener Paste	10.00	0.0001	6.2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Isofoam R-1322B	9.50	0.0082	6.2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Isofoam A	10.25	0.0080	6.2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	50.00%	0.00%
Epocast 60 Hardener	8.47	0.0070	6.2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Epocast 60 Resin	12.35	0.0300	6.2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Appendix A: Emissions Calculations
HAP Emission Calculations (Page 2 of 2)

Company Name: Total Industries, Int'l., A Division of Total Enterprises, Ltd.
Address City IN Zip: 3333 West Lathrop Drive, South Bend, Indiana 46619
Operation Permit No.: F141-6217
Plt ID: 141-00120
Reviewer: Linda Quigley/EVP
Date: January 29, 2001

Material	Density (Lb/Gal)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Vinyl Acetate Emissions (ton/yr)	Styrene Emissions (ton/yr)	Toluene Emissions (ton/yr)	MEK Emissions (ton/yr)	Dimethyl Phthalate Emissions (ton/yr)	Methanol Emissions (ton/yr)	MIBK Emissions (ton/yr)	MDI Emissions (ton/yr)	Hydroquinone Emissions (ton/yr)
Pattern Shop Y - PS-9 through PS-11												
Fast Set White Cold Glue	9.17	0.0001	63.6	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Bondtite XL Light	9.50	0.0038	63.6	0.000	1.508	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35% Red Cream Hardener	10.00	0.0001	63.6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lacquer Sanding Sealer	7.15	0.0002	63.6	0.000	0.000	0.040	0.080	0.000	0.000	0.000	0.000	0.000
Cream Hardener	10.00	0.0008	63.6	0.000	0.000	0.000	0.000	0.713	0.000	0.000	0.000	0.000
Lacquer Thinner	7.02	0.0021	63.6	0.000	0.000	2.249	0.595	0.000	0.331	0.595	0.000	0.000
Plastic Shop X												
Filler 7 White	14.20	0.0002	6.2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Filler 7 Gray	14.20	0.0001	6.2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hi Speed Hardener Paste	10.00	0.0001	6.2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Isofoam R-1322B	9.50	0.0082	6.2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Isofoam A*	10.25	0.0080	6.2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Epocast 60 Hardener	8.47	0.0070	6.2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Epocast 60 Resin	12.35	0.0300	6.2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
				0.00	**1.51**	**2.29**	**0.67**	**0.71**	**0.33**	**0.60**	**0.00**	**0.00**

6.12

* Note: All MDI in Isofoam A is totally encapsulated (reacted) into the final foam product and is therefore not emitted to the atmosphere.

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations
VOC, HAP, PM and PM-10 Emissions
From Omega Mixers

Company Name: Total Industries, Int'l., A Division of Total Enterprises, Ltd.
Address City IN Zip: 3333 West Lathrop Drive, South Bend, Indiana 46619
Operation Permit No.: F141-6217
Plt ID: 141-00120
Reviewer: Linda Quigley/EVP
Date: January 29, 2001

VOC and HAP Emissions

Material ALpHASET 9010 Liquid Resin	% in Product	% Released	% Remaining in mold/core	Maximum Sand Processed ton/hr	Maximum Liquid Resin Usage Rate lb/ton of sand	Potential VOC/HAP pounds per hour	Potential VOC/HAP tons per year
Formaldehyde	0.99%	2.0%	0.0%	30.000	34.5000	0.2049	8.98E-01
Phenol	5.00%	0.0%	2.0%	30.000	34.5000	1.0350	4.53E+00
					Total Potential Emissions:	**1.24**	**5.43**

PM and PM-10 Emissions

Process Description	Process Rate tons/hr	Pollutant	Emission Factor lb/ton sand	Uncontrolled Emissions tons/yr	Control Efficiency Factor %	Controlled Emissions tons/yr
Omega Sand Mixer #1	21.00	PM	3.60	331.13	90.00%	**33.11**
	21.00	PM-10	0.54	49.67	90.00%	**4.97**
Omega Sand Mixer #2	13.50	PM	3.60	212.87	90.00%	**21.29**
	13.50	PM-10	0.54	31.93	90.00%	**3.19**

Methodology:
VOC/HAP tons per year = % HAP in product * % HAP released and/or % HAP remaining core * max. sand processed (ton/hr) * max. resin usage rate (lb/ton)
Controlled PM and PM10 tons/yr = process rate (tons/hr) * emission factor (lb/ton) * 4.38 * 1/(1 - control efficiency)
Notes:
The percent remaining in mold/core is released when destroyed and exposed to molten metal.
The co-reactant (ALpHACURE 910) acts as a catalyst and does not result in VOC/HAP emissions.
The percent released and remaining in mold/core values are derived from the American Foundrymen's Society (AFS), Form R, Gold Book, 1998.
The applicant claims a 90% control efficiency because the sand going into the mixers is treated with the liquid resin and coreactant materials and the mixers are enclosed.
Testing is required to verify the 90% control efficiency applied by the applicant.
PM and PM-10 Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.22. SCC#3-04-003-50